What is claimed is:

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1. A temperature-compensated fiber grating package comprising:

a base having first and second spaced arms including a first material having a first coefficient of thermal expansion;

a strut disposed between said first and second arms, said strut including a second material having a second coefficient of thermal expansion less than said first coefficient of thermal expansion and having a first end in contact with an interior surface of said first arm to define a first fulcrum point, and a second end in contact with an interior surface of said second arm to define a second fulcrum point; and

an optical fiber having a Bragg grating formed therein, said optical fiber having a first portion adjacent a first end of said Bragg grating being affixed to said first arm and a second portion adjacent a second end of said Bragg grating being affixed to said second arm, said Bragg grating thereby being disposed between said first and second arms, at least one of said first and second arms thereby flexing about at least one of said fulcrum points to provide a temperature-dependant axial stress on said Bragg grating to substantially compensate for temperature-dependant variations of a Bragg wavelength of said Bragg grating.

2. A temperature-compensated grating package according to claim 1, wherein said base portion further includes spaced first and second arms, said first and second arms extending upwardly relative to a top surface of said base portion.

3. A temperature-compensated grating package according to claim 2, wherein said base is integrally formed from said first material.

4. A temperature-compensated grating package according to claim 1, wherein said first material includes one of BeCu and 316-SS.

5. A temperature-compensated grating package according to claim 1, wherein said second material comprises Invar.

6. A temperature-compensated grating package according to claim 1, wherein said first and second fulcrum points are positioned substantially in accordance with:

$$\frac{b}{a} = \frac{\sigma c(T) - \alpha_B}{(\alpha_B - \alpha_A)}$$

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wherein b is a distance from each of said fulcrum points to a centerline of said grating, a is a distance from each of said fulcrum points to a bottom of said arms, α_B is said second coefficient of thermal expansion, and α_A is said first coefficient of thermal expansion, and $\sigma c(T)$ is said stress.

7. A temperature-compensated grating package according to claim 1, wherein said first and second portions of said fiber are affixed to said first and second arms, respectively, with an epoxy.

8. A temperature-compensated grating package according to claim 1, wherein said first and second portions of said fiber are affixed to said first and second arms, respectively, with a solder.

9. A temperature-compensated grating package according to claim 1, wherein said first and second portions of said fiber are affixed to said first and second arms, respectively, with a weld.

10. A temperature-compensated grating package according to claim 1, wherein said fiber is affixed to said arms in a substantially parallel relationship to said strut.

11. A temperature-compensated grating package according to claim 1, wherein said base portion includes spaced first and second arms, said first and second arms extending upwardly relative to a top surface of said base portion, said base further comprising portions defining a hinge adjacent a bottom of said first arm.

12. A temperature-compensated grating package according to claim 11, wherein said first fulcrum point is positioned substantially in accordance with:

$$\frac{b}{a} = \frac{\sigma c(T) - \alpha_B}{(\alpha_B - \alpha_A)}$$

wherein b is a distance from each of said fulcrum points to a centerline of said grating, a is a distance from each of said fulcrum points to a bottom of said arms, α_B is said second

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coefficient of thermal expansion, and α_A is said first coefficient of thermal expansion, and $\sigma c(T)$ is said stress.

13. A temperature-compensated grating package according to claim 11, wherein said strut is adapted in size to allow adjustment of an initial positive bias strain on said grating by varying said second fulcrum point.

14. A temperature-compensated grating package according to claim 1, wherein a portion of said at least one of said first and second arms travels in a non-linear path as said at least one of said first and second arms flexes about said at least one of said fulcrum points.

15. A temperature-compensated grating package according to claim 14, wherein said non-linear path is a circular path.

16. A temperature-compensated grating package according to claim 1, wherein said first arm includes an angular top portion extending inwardly and upwardly relative to a top of said second arm, and wherein said first portion of said fiber is affixed to said angular top portion.

17. A temperature-compensated grating package according to claim 16, wherein at least a portion of said angular top portion travels in a non-linear path as said first arm flexes about said first fulcrum point.

18. A temperature-compensated grating package according to claim 17, wherein said non-linear path is a circular path.

Sub A2

19. A method of making a temperature-compensated grating package comprising the steps of:

providing a base including first and second spaced arms and having a first material having a first coefficient of thermal expansion;

providing a strut between said first and second arms, said strut having a first end in contact with an interior surface of said first arm, and a second end in contact with an interior surface of said second arm, said strut including a second material having a second coefficient of thermal expansion less than said first coefficient of thermal expansion;

affixing a first portion of an optical fiber to said first arm and a second portion of said optical fiber to said second arm; and

forming a Bragg grating in said optical fiber between said first and second arms.

20. A method of making a temperature-compensated grating package comprising:

providing a base including first and second spaced arms and having a first material having a first coefficient of thermal expansion;

providing a strut between said first and second arms, said strut having a first end in contact with an interior surface of said first arm, and a second end in contact with an interior surface of said second arm, said strut including a second material having a second coefficient of thermal expansion less than said first coefficient of thermal expansion;

providing an optical fiber with a Bragg grating formed therein;

heating said base, said strut, and said Bragg grating to a temperature which provides a Bragg wavelength of said Bragg grating which is at least substantially equivalent to a desired Bragg wavelength, said temperature being above an intended use temperature of said package;

affixing said optical fiber to said base with said Bragg grating disposed between said first and second arms while maintaining said base , said strut, and said Bragg grating at said temperature; and

cooling said base, said strut, and said Bragg.

21. A method of making a temperature-compensated grating package comprising the steps of:

providing a base including first and second spaced arms and having a first material having a first coefficient of thermal expansion;

providing a strut between said first and second arms, said strut having a first end in contact with an interior surface of said first arm, and a second end in contact with an interior surface of said second arm, said strut including a second material having a second coefficient of thermal expansion less than said first coefficient of thermal expansion;

providing an optical fiber with a Bragg grating formed therein, said Bragg grating having an initial Bragg wavelength which is longer than a desired Bragg wavelength;

affixing said optical fiber to said first and second arms using a bonding material, said Bragg grating being disposed between said first and second arms;

heating at least one of said base, said bonding material, said strut, and said fiber to achieve stress relaxation in said Bragg grating;

allowing said at least one of said base, said bonding material, said strut, and said fiber to cool; and

repeating said heating and cooling steps until said desired Bragg wavelength of said Bragg grating is observed.

22. A method of making a temperature-compensated grating package comprising the steps of:

providing a base including first and second spaced arms and having a first material having a first coefficient of thermal expansion;

providing a strut between said first and second arms, said strut having a first end in contact with an interior surface of said first arm to define a first fulcrum point, and a second end in contact with an interior surface of said second arm to define a second fulcrum point, said strut including a second material having a second coefficient of thermal expansion less than said first coefficient of thermal expansion;

providing an optical fiber with a Bragg grating formed therein;

affixing said optical fiber to said base with said Bragg grating disposed between said first and second arms; and

positioning at least one of said first and second fulcrum points to allow flexing of at least one of said first and second arms about at least one of said fulcrum points to provide a desired temperature-dependant axial stress on said Bragg grating to substantially compensate for temperature-dependant variations of a Bragg wavelength of said Bragg grating.

23. A fiber optic package, comprising:

an arm member extending in a first direction, said arm member including a first material having a first coefficient of thermal expansion;

a strut member provided adjacent said arm member and extending in a second direction, said strut member including a second material having a second coefficient of thermal expansion; and

a segment of optical fiber including a fiber Bragg grating region disposed therein, said segment of optical fiber having an end portion coupled to said arm member, said arm member being configured to induce strain on said optical fiber to thereby substantially compensate for variations in a Bragg wavelength associated with said fiber Bragg grating region.